

# EXHIBIT F

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**Date:** April 10, 2006

**MEMORANDUM FOR:** CINDY COE LASETER  
Regional Administrator

**FROM:** SUZANNE M. STREET  
Area Director

RA Concurrence:

Compliance Prog.  
Concurrence:

**SUBJECT:** Notification of Results of Fatality Investigation

<b>EMPLOYER NAME:</b> Knight's Services, Inc. (Detyens Shipyards, Inc.)		<b>INSPECTION#:</b> 301117917 (301117966)	<b>6-MONTH DATE:</b> 06/01/2006	
<b>DATE/ TIME OF ACCIDENT:</b> 12/01/05 4:30 PM	<b>DATE/ TIME OF DEATH:</b> SAME	<b>DATE/ TIME OF REPORTING:</b> 12/01/05 6 PM	<b>INSPECTION DATE:</b> 12/01/05	
<b>CSHO NAME</b> BRIAN ROBERTSON  <b>AND ID#:</b> Y9083	<b>TEAM LEADER:</b> Suzanne Street	<b>TYPE OF INDUSTRY:</b> Maritime (shipyard)	<b>SIC:</b> 3731	<b># OF EE'S:</b> 30
<b>PROPOSED S[PROPOSED PENALTY] PENALTY:</b>	YES X NO <b>ACCIDENT RELATED ITEMS:</b>	YES X NO <b>WITNESS STATEMENTS:</b>	YES X NO X <b>COMPREHENSIVE CASE REVIEW: ASSISTED BY RO OFF-SITE</b>	

**ESTABLISHMENT INFORMATION:** Knight Services is a specialty contracting company that fabricates, repairs, removes, and installs piping systems (i.e., pipefitting). They work primarily as a subcontractor for Detyens Shipyards performing ship repair activities. Their home office is in Summerville, SC. The company had no prior OSHA history.

#### Additional Employers Involved:

The accident occurred at the main yard of Detyens Shipyards, Inc., located in North Charleston at the former site of the Charleston Naval Shipyard that closed in early 1990. Detyens Shipyards has had an ongoing contract with Knights Services for approximately 5 years to do pipefitting work on vessels that are undergoing repair at the yard. Detyens Shipyards also has a smaller shipyard located a number of miles from their main yard in Mt. Pleasant, SC. However, minimal work is done there.

#### NEXT-OF-KIN INVOLVEMENT:

After sending the accident investigation notification to the next of kin, the father and mother called the Area Director. The father is also an employee of Knight's Services, and worked alongside his less-experienced son. The parents provided information about an incident about a week before the accident. This information was followed up on and citations are being proposed related to that incident (11/21 - 23/05). They also raised concerns about the Fire Department's response, and this was investigated. The compliance officer took statements from the father, including one in his attorney's office. The mother has checked with the Area Director periodically as to the status of the investigation, and provided additional information.

USA001098

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Knight's Services, Inc. (Detyens Shipyards, Inc.)

INSPECTION#:  
301117917 (301117966)

6-MONTH DATE:  
06/01/2006

#### ACCIDENT DESCRIPTION:

The accident occurred in the aft CHT (sewage collection, holding and transfer) room aboard the USNS Supply which was in drydock. The CHT room which was located in the bottom of the vessel housed a large 8610-gallon sewage CHT tank (which took up the majority of the space in the room), as well as, associated soil drain (from toilets and urinals) inlet lines (piping) and gray water drain (from showers, lavatories, decks) inlet lines which fed into the the CHT tank. In addition, two adjacent sewage pumps at the tank were used to transfer sewage from the tank through discharge lines and ultimately off the vessel. Diverter valves were used to channel the sewage through discharge lines either to a marine sanitary device (small onboard treatment plant), overboard, or to a shore connection. In addition the tank was equipped with a pump driven closed loop eductor aeration system which was used to prevent sludge in the tank from settling and becoming anaerobic. Hydrogen sulfide is normally produced when sewage becomes anaerobic (lacks air/oxygen). The accident occurred when an employee unbolted and opened the upper flange of a 4-foot section of 2-inch piping associated with the eductor line. Just prior to the accident, employees of Detyens Shipyards pipe shop had been using a portable air-driven whiz-bang pump and flexible plastic corrugated piping to pump sewage from the CHT tank. The plastic piping had been connected to a short drain line that fed off of the eductor line. Apparently the pump shut off due to an unexpected loss of compressed air. When the pump shut down the pipe shop employee that was monitoring the operation left the CHT room to find out what had happened. Subsequently, an employee of Knights Services who was working in the room proceeded to start unbolting and removing the 4-foot section of eductor piping. Due to the fact that the eductor line was being used for this purpose, the two ball valves which allowed sewage from the tank to flow freely through the eductor line had allegedly been opened by the pipe shop. Therefore, when the employee of Knights Services opened the flange of this section of eductor piping, sewage began spilling onto the deck of the CHT room. The three employees of Knights Services that were working in the room evacuated the space. However, one of these employees (victim) went back into the room to get his hard hat and tools but never made it back out and died due to his exposure to very high levels of hydrogen sulfide gas. According to the coroners report, the victim died of chemical asphyxia/acute hydrogen sulfide toxicity. A co-worker who evacuated but went back into the CHT room in an attempt to get the victim out of the space was overcome by hydrogen sulfide but survived after being removed by a Detyens Shipyard employee.

#### INVESTIGATION FINDINGS AND PROPOSED ACTIONS/VIOLATIONS

##### Citations for Knights Services are recommended per the following:

Serious violation for **29 CFR 1910.1200(e)(1)**: in that, the employer did not develop, implement, and maintain a written hazard communication program in the workplace. Employees are exposed to such hazardous chemicals as welding fumes and oxygen/acetylene while conducting MIG/stick welding and torch cutting in confined/enclosed spaces which they had to enter without receiving proper training. The resulting proposed penalty will be assigned at \$750.

Grouped serious fatality-related violations for **29 CFR 1915.12(d)(4)(i)**, **29 CFR 1915.12(d)(2)(i) – (iv)**, and **29 CFR 1915.12(d)(3)(i) – (iii)**: in that , the employer did not provide each employee with training before the entrant began work in confined or enclosed spaces or other dangerous atmospheres. The employer allowed employees to work in such confined/enclosed spaces as CHT rooms, fuel tanks, feed water tanks, and dirty oil tanks without training them to:

- Recognize the characteristics of the confined/enclosed space
- Anticipate and be aware of the hazards that may be faced during entry
- Recognize the adverse health effects that may be caused by the exposure to a hazard
- Understand the physical signs and reactions related to exposures to such hazards

Employees were also not trained to exit confined/enclosed spaces whenever:

- An evacuation was ordered

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- An evacuation signal such as an alarm is activated
- The entrant perceives that he or she is in danger

*The Supt. had been trained in confined space procedures, including the need to train employees of the hazards of hydrogen sulfide. The company President and the Supt. had discussed hiring a safety consultant to do training and handle other safety and health matters, but had not got around to it. If employees had been trained, they would have known of the serious hazard that could result from opening a pipe that could contain sewage. And, they may not have returned to the space to retrieve tools and equipment, after the spill occurred. (\$4,900 penalty: \$7,000; 20% reduction for size and 10% reduction for history). **NOTE: This violation was initially proposed as a willful.***

Serious fatality-related violation for **29 CFR 1915.15(a)**: in that, the employer did not ensure that pipelines that could carry hazardous materials into spaces that had been certified "Safe for Workers" or "Safe for Hot Work" were not disconnected, blanked off, or otherwise blocked by a positive method to prevent hazardous materials from being discharged into the space. An eductor pipeline connected to the sewage collection holding and transfer (CHT) tank in the aft CHT room (certified "Safe for Workers" and "Safe for Hot Work") aboard the USNS "Supply" was not disconnected, blanked out, or otherwise blocked by a positive method to prevent hazardous materials from being discharged into the space. As a result, the CHT room was flooded with raw sewage after an employee opened the flange of a 4-foot section of eductor piping. *It was normal procedure for piping to be flushed and cleaned, "gas-freed", before work, and for the Knights Supt to obtain verification from the shipyard that the piping was safe to work on. Although the Knights Supt denied that he intended employees to work on the eductor line, a statement by the company President, and by Knights and Detyens employees support our finding that Knights management did intend for the employee to open this line at this time. In fact, the Supt. gave the employee specific instructions about how to remove the bolts, while it was being use for sewage pumping. A Detyens employee told them to wait because it was being used at the time. (\$4,900 penalty: \$7,000; 20% reduction for size and 10% reduction for history. **Note: This violation was initially proposed as a willful.***

Issue grouped serious fatality related violations for **29 CFR 1915.15(b) and 29 CFR 1915.15(c)**: in that, the employer did not stop work when conditions within a tested confined or enclosed space or other dangerous atmosphere changed and the employer did not ensure that a competent visually inspected and tested each space certified "Safe for Workers" or "Safe for Hot Work" as often as necessary to ensure that atmospheric conditions within that space were maintained within the conditions established by the certificate. Between 11/21/05 and 11/23/05 and again on 12/1/05 (prior to the accident) employees were required to open sewage discharge lines and drain sewage water from them in an attempt to begin the process of modifying the existing piping and installing new valves. During this process, employees continued to notice the smell of rotten eggs (sign of hydrogen sulfide) and see black sewage water. According to statements from employees, management officials were notified of these conditions. However, the employer failed to stop work or ensure that a competent person inspected and tested the space as often as necessary during this work to ensure that atmospheric conditions within the aft CHT room had not changed from the conditions that were present when the marine chemist certified the space in early November. These earlier conditions in the aft CHT room, and the related complacency by management were a precursor for the fatality that occurred on 12/1/05. (\$4,900 penalty: \$7,000; 20% reduction for size and 10% reduction for history (20% reduction for size and 10% reduction for history).

Serious violation for **29 CFR 1915.94**: in that, the employer did not frequently check on employees who were working in confined spaces, such as in the aft CHT room prior to the accident, to ensure their safety. Employees had not been trained in these hazards; and, at least one employee had only worked for Knights for about 1½ months. Statements indicate that employees went unsupervised for long periods of time. The proposed penalty is \$4,900 (20% reduction for size and 10% reduction for history).

Issue an other-than-serious violation for **29 CFR 1910.134(c)(1)**: in that the employer had not established

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and fully implemented a written respiratory protection program that included the provisions in 1910.134(c)(1)(i) – (ix) with worksite specific procedures. The employer required employees to wear respiratory protection when performing welding in confined and enclosed spaces aboard vessels. The employer had provided employees with medical evaluations, fit-testing, and training several years ago, but failed to continue providing fit-testing and training on an annual basis. The employer had not evaluated the respiratory hazards in the workplace and had not designated a qualified program administrator to oversee the program.

Other-than-serious violation for **29 CFR 1915.502(e)**: in that the employer did not develop and implement a fire safety plan for their employees. This standard is specifically for contract employers in shipyard, and requires them to have a plan that complies with the host employers' fire safety plan.

**Citations for Detyens Shipyards are recommended per the following:**

Issue grouped serious violations for **29 CFR 1915.12(d)(4)(i) and 29 CFR 1915.12(d)(2)(iii) & (iv)**: in that the employer did not provide each employee with training before the entrant began work in confined or enclosed spaces or other dangerous atmospheres and the employer allowed employees to work in such confined/enclosed spaces as the aft CHT room without training them to:

- Recognize the adverse health effects that may be caused by the exposure to a hazard
- Understand the physical signs and reactions related to exposures to such hazards

The proposed penalty is \$2,125.

Issue grouped serious violations for **29 CFR 1915.15(b) and 29 CFR 1915.15(c)**: in that, the employer did not stop work when conditions within a tested confined or enclosed space or other dangerous atmosphere changed and the employer did not ensure that a competent visually inspected and tested each space certified "Safe for Workers" or "Safe for Hot Work" as often as necessary to ensure that atmospheric conditions within that space were maintained within the conditions established by the certificate. Between 11/21/05 and 11/23/05 several of Detyens Shipyards labor force employees were required to work in the aft CHT room of the USNS "Supply" removing sewage water (by pump and manual sweeping) from the deck and open containers. The sewage water that was present in the open containers had been previously collected from sewage discharge lines by employees of Knights Services. While performing this work, employees experienced a rotten egg smell but management continued to allow the work to continue instead of stopping work. In addition, the employer did not ensure that a competent person inspected and tested the space as often as necessary during this work to ensure that atmospheric conditions within the aft CHT room had not changed from the conditions that were present when the marine chemist certified the space in early November. The proposed penalty is \$2,125.

Issue an other-than-serious violation for **29 CFR 1915.502(a)**: in that the employer did not develop and implement a written fire and safety plan that covered all the actions that employers and employees must take to ensure employee safety in the event of a fire.

**SPECIAL ISSUES/ PROBLEMS:** An administrative subpoena was issued to Knights services for training and program documentation. Some documentation was received on 4/04/06, but it did affect the violation. USA001101

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**SUMMARY OF PROPOSED VIOLATION ITEMS**

<b>EMPLOYER NAME:</b> KNIGHTS SERVICES, INC.			<b>INSPECTION#:</b> 301117917	<b>6-MONTH DATE:</b> 6/01/06	
<b>CIT./ITEM</b>	<b>T Y P E</b>	<b>PROPOSED STANDARD</b>	<b>INSTANCE DESCRIPTION</b>	<b>ACCIDENT RELATED?</b>	<b>PROPOSED PENALTY</b>
1/1	S	1910.1200(e)(1)	Hazard communication program not developed & implemented	No	\$750.00
1/2a,2b,2c	S	Grouped Violation 1915.12(d)(4)(i), 1915.12(d)(2)(i) – (iv), 1915.12(d)(3)(i) – (iii)	Employees not provided with confined/enclosed space training	Yes	\$4,900.00
1/3	S	1915.15(a)	Pipelines that could carry hazardous materials into spaces were not disconnected, blanked off, or otherwise blocked by positive method	Yes	\$4,900.00
1/4a,4b	S	Grouped Violation 1915.15(b) and 1915.15(c)	Work was not stopped in a confined space when atmospheric conditions changed and a competent person did not inspect and test the space as often as necessary to ensure conditions within the space were maintained within the conditions established by the marine chemist certificate	Yes	\$4,900.00
1/5	S	1915.94	Employer did not check on employees working in confined spaces frequently	Yes	\$4,900.00
2/1	O	1910.134(c)(1)	Respirator program not developed and fully implemented	No	\$0.00
2/2	O	1915.502(e)	Contract employer did not develop and implement a fire safety plan	No	\$0.00
<b>TOTAL PENALTY, Knights Piping</b>					<b>\$20,350.00</b>

**SUMMARY OF PROPOSED VIOLATION ITEMS**

<b>EMPLOYER NAME:</b> DETYENS SHIPYARD			<b>INSPECTION#:</b> 301117966	<b>6-MONTH DATE:</b> 6/01/06	
<b>CIT./ITEM</b>	<b>T Y P E</b>	<b>PROPOSED STANDARD</b>	<b>INSTANCE DESCRIPTION</b>	<b>ACCIDENT RELATED?</b>	<b>PROPOSED PENALTY</b>
1/1a,1b	S	Grouped Violation 1915.12(d)(4)(i) and 1915.12(d)(2)(iii) – (iv)	Employees not provided with confined/enclosed space training	No	\$2,125.00
1/2a,2b	S	Grouped Violation 1915.15(b) and 1915.15(c)	Work was not stopped in a confined space when atmospheric conditions changed and a competent person did not inspect and test the space as often as necessary to ensure conditions within the space were maintained within the conditions established by the marine chemist certificate	No	\$2,125.00
2/1	O	1915.502(a)	Employer had not developed and implemented a written fire safety plan	No	\$0.00
<b>Total Penalty, Detyens Shipyard</b>					<b>\$4,250.00</b>